

## CLAIMS

1) A method of determining the capillary pressure curve of rocks of an underground reservoir from measurements on cuttings taken therefrom, comprising measuring the permeability  $K$  of the cuttings, characterized in that it comprises :

5 - measuring the capillary pressure curve  $P_c$  as a function of the saturation by subjecting cuttings initially saturated with a fluid to centrifugation, and

- parametrizing a capillary pressure curve  $P_c$  satisfying empirical relations depending on adjustable parameters, constrained to adjust to an asymptotic part of the capillary curve measured by centrifugation, and to the value of permeability  $k$  measured on the

10 cuttings, so as to obtain the whole of the capillary pressure curve.

2) A method as claimed in claim 1, characterized in that parametrizing comprises selecting by default a set of said parameters allowing calibration on the asymptotic part of the capillary pressure  $P_c$  with low saturations, and modifying the parameters step by step so that the estimation of the permeability given by one of the empirical relations

15 used is best adjusted with the permeability measurements carried out on cuttings and with said asymptotic part.

3) A method as claimed in claim 1 or 2, characterized in that permeability  $k$  of the cuttings is measured from measurements of the pressure variations in a vessel filled with a fluid containing the cuttings after it has been communicated for a predetermined

20 period of time with a tank containing the same fluid under pressure, and from the volume actually absorbed by the cuttings, and from modelling the evolution of the pressure or of the volume in the vessel, from initial values selected for the physical

parameters of the cuttings, which are iteratively adjusted so that the modelled pressure evolution best adjusts with the measured evolution of the physical parameters of the cuttings.